2016 Spring Electrofishing (SEII) Summary Report

Marion Millpond (WBIC 294500)

Waupaca County

Introduction and Survey Objectives

In 2016, the Department of Natural Resources conducted a one night boomshocking survey of Marion Millpond in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey are to characterize species composition, relative abundance and size structure. The following report is a brief summary of the activities conducted, general status of fish populations and future management options.

Acres: 116 Shoreline Miles: 3.8 Maximum Depth (feet): 12
Lake Type: Impoundment Public Access: 2 public boat Launch
Regulations: Only 2 northern pike may be kept and they must be at least 26" all other species follow statewide default regulations

WISCONSIN DNR CONTACT INFO.

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Survey Information							
Site location	Survey Date	Water Temp. (F)	Target Species	Total Miles Shocked	No. of Stations	Gear	Dippers
Marion Millpond	5/10/2016	59	All	1.0	2	Boomshocker	2

Fish Metric Descriptions
PSD, CPUE, LFD and Growth

Proportional Stock Density (PSD) is an index used to describe size structure of fish. It is calculated by dividing he number of quality size fish by the number of stock size fish for a given species. PSD values in the 40 to 60 percent range generally describe a balanced fish population.

Catch per unit effort (CPUE) is an index used to measure fish population relative abundance which simply refers to the number of fish captured per unit of distance or time. For lake surveys we typically quantify CPUE by the number and size of fish per mile of shoreline. CPUE indexes are compared to statewide data by percentiles. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

Length frequency distribution (LFD) is a graphical representation of the percentage of fish captured by one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or gear sampling limitations.

Survey Method

- Marion Millpond was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period is to count and measure adult bass and panfish. Other gamefish may be sampled but are considered by-catch as part of this survey.
- One mile of shoreline was sampled. All fish captured were identified to species and measured for length.
- Fish metrics used to describe fish populations include proportional stock density, catch per effort and length frequency distribution,.

Size Structure Metrics									
Species	Total	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock No	Quality No	PSD	Percentile Rank	Size Rating
BLUEGILL	362	4.8	2.4 - 7.5	3.0 and 6.0	289	47	16%	23rd	Low
LARGEMOUTH BASS	19	14.1	6.1 - 19.3	8.0 and 12.0	15	14	93%	95th	High
NORTHERN PIKE	4	21.4	18.5 - 24.2	14.0 and 21.0	4	2	50%	76th	Moderate - High
PUMPKINSEED	115	4.4	2.6 - 7.6	3.0 and 6.0	85	5	6%	15th	Low
YELLOW PERCH	161	4.9	3.9 - 7.1	5.0 and 8.0	39	0	0%	-	Low

Abundance Metrics							
Species	CPUE Total (no per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Percentile Rank	Abundance Rating
BLUEGILL	362	93rd	High	≥ 7.0	3	40th	Moderate
LARGEMOUTH BASS	19	59th	Moderate	≥ 14.0	14	94th	High
NORTHERN PIKE	4	79th	Moderate - High	≥ 21.0	2	90th	High
PUMPKINSEED	115	98th	High	≥ 7.0	1	68th	Moderate
YELLOW PERCH	161	97th	High	≥ 8.0	0	-	Low

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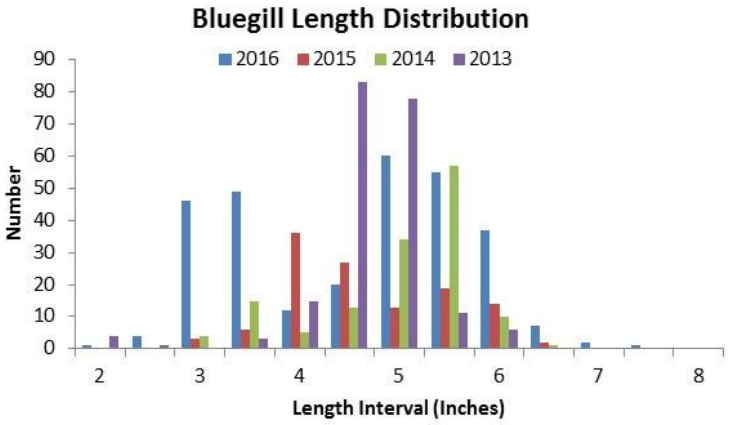

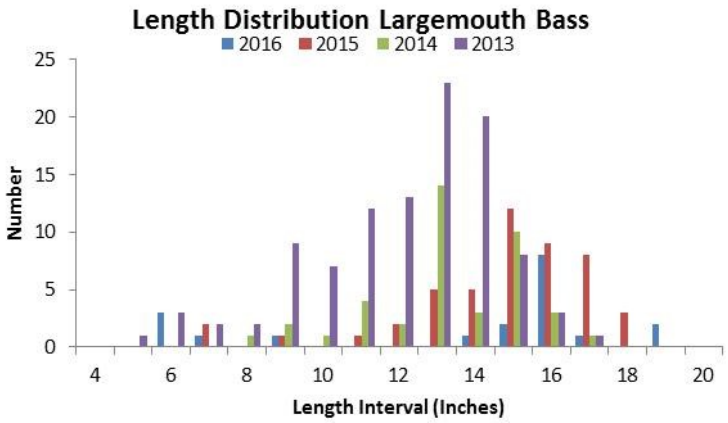

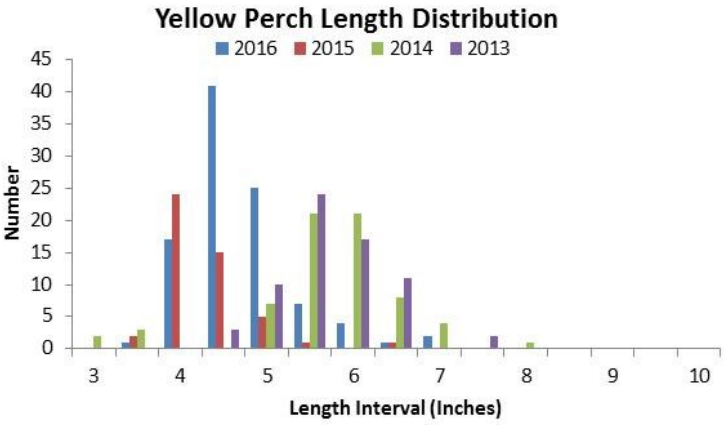

Stocking History				
Species	**Year**	**Age**	**Mean Length**	**Number Stocked**
BLACK CRAPPIE	2016	ADULT	7.0	2000
NORTHERN PIKE	2016	LARGE FINGERLING	8.0	2893
LARGEMOUTH BASS	2015	LARGE FINGERLING	1.9	5776
NORTHERN PIKE	2015	LARGE FINGERLING	9.4	2893
NORTHERN PIKE	2014	LARGE FINGERLING	3.2	2650
NORTHERN PIKE	2014	LARGE FINGERLING	9.5	750
BLACK CRAPPIE	2013	ADULT	6.0	1498
NORTHERN PIKE	2013	ADULT	14.0	500
LARGEMOUTH BASS	2013	LARGE FINGERLING	2.11	2698
YELLOW PERCH	2012	ADULT	7.0	1895
LARGEMOUTH BASS	2012	LARGE FINGERLING	3.0	2695
NORTHERN PIKE	2012	LARGE FINGERLING	7.5	250

Summary

- A total of 822 fish in 12 species were collected during our survey. The most frequently encountered and common species were bluegill (362), pumpkinseed (115), yellow perch (161), black bullhead (82) and brown bullhead (49).
- Small areas of Eurasian water milfoil were present in the millpond.
- Other species sampled in low abundance included golden shiner (17), northern pike (4), warmouth (7), white sucker (2) and yellow bullhead (3).
- Largemouth bass was the dominant gamefish captured in our survey. Size structure was at high levels, while the abundance metrics were at moderate levels. The largest bass sampled was 19.3 inches and 93% of catch were greater than 14.0 inches.
- 4 northern pike were sampled. Fyke netting would be the more appropriate sampling technique to assess this population. Marion Millpond is tentatively scheduled for a spring fyke netting survey in 2017.
- Panfish populations were mainly comprised of bluegill, yellow perch and pumpkinseed. Bluegill were found at high density but low size structure with only 16% of our catch greater than 6.0 inches and 1% greater than 7.0 inches. Pumpkinseed were found at high abundance levels and size structure was also low with 1% of the catch greater than 6.0 inches and another 1% greater than 7.0 inches.
- Panfish abundance metrics are very high when compared to statewide data. A balanced predator population is the best way to control panfish numbers, along with controlling the Eurasian water milfoil to keep it at minimal levels.

Management Options

This survey was primarily intended to assess largemouth bass and sunfish populations. Other species are captured but different survey techniques are typically used to assess their population metrics. Therefore, management recommendations are focused on bass and panfish.

Largemouth Bass

- Management Objective: Maintain largemouth CPUE of > 14.0 inches bass at 10 - 20 per mile. Increase recruitment of young largemouth bass.
- Management Action: It is hoped that natural recruitment will increase in the future to maintain or increase largemouth bass density. We intend to reassess the bass population in 2017.

Panfish

- Panfish size structure was found at low levels.
- Management Objective: Increase bluegill size structure and decrease bluegill relative abundance.
- Management Action: Predators have been established to control panfish populations. Aquatic plant control measures should help predators feed more efficiently on panfish, thus reducing density and increasing growth rates. Additionally, the minimum size limit on northern pike is an attempt to protect some fish to be able to control panfish numbers.